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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,213	12/28/2001	Nileshkumar Trambaklal Dave	C-2567	5234

7590

11/14/2003

M..P. Williams
210 Main Street
Manchester, CT 06040

EXAMINER

MERCADO, JULIAN A

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 11/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

CHOY

Office Action Summary	Application No.	Applicant(s)	
	10/036,213	DAVE, NILESHKUMAR TRAMBAKLAL	
	Examiner	Art Unit	
	Julian A. Mercado	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Grasso et al. (U.S. Pat. 6,159,628)

Regarding independent claim 1 and dependent claims therefrom as further noted, Grasso et al. teaches a fuel cell stack comprising a fuel cell [10] having a proton exchange membrane or PEM [48] with catalyst coatings [40, 44]. (col. 6 line 17-23) The PEM is between an anode substrate [34] and cathode substrate [32]. Each of the substrates has a reactant flow field [14] and [18], respectively. (col. 5 line 55-57) Each of the anode and cathode substrates has an edge seal shown in Figure 2 as “thermoplastic seal” [36, 52], respectively. (col. 6 line 8-15) The thermoplastic seal is by definition a sealant material. The seal may be a thermoplastic polymer or elastomeric polymer. (col. 8 line 20-22, applies to dependent claim 3, 5) Both substrates have a foam gasket [60,62]. (col. 6 line 39-46, applies to dependent claim 2)

Independent claim 1 is noted to recite a product-by-process limitation of “the sealant material (31, 32) [being] extruded into the substrate by a hot lamination process (45a)”.

Dependent claim 2 recites the same. However, this process limitation of a “hot lamination process” is not given patentable weight as the limitation does not give breadth or scope to the

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product claim. The claimed product appears to be the same or similar to the prior art product insofar as having the claimed edge seal with the foam gasket adhered to the substrate. In the event that any differences can be shown by the product of the product-by-process, such differences would have been obvious to the skilled artisan as a routine modification of the product absent of a showing of unexpected results. *In re Thorpe*, 227 USPQ 964 (Fed. Cir. 1985). In another respect, it is noted that Grasso et al. specifically teach the sealant material being extruded into the substrate by a hot lamination process, “[t]he assembly was placed into a Culver press and heated to 300 degrees Fahrenheit”, “[t]he lamination procedure fills the substrate layers to form a gas-tight edge seal while simultaneously bonding the components together”. (col. 7 line 51-58)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as obvious over Grasso et al. as applied to claims 1-3 and 5 above in view of Barton et al. (U.S. Pat. 6,057,054).

The teachings of Grasso et al. are discussed above.

Grasso et al. does not explicitly teach a thermosetting polymer for the sealant material. However, in a similar application for a fuel cell, Barton et al. teaches a sealant material that circumscribes the electrochemically active area of the MEA, the preferred sealant materials

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being one that is of the thermosetting class of polymers. (col. 5 line 31-37) Note that the thermosetting sealant material is also characterized as a "flow processable elastomer". (col. 6 line 52-65) Thus, Barton et al. specifically demonstrates mutual equivalence of thermosetting polymers to other classes of polymers such as elastomeric polymers in that a thermosetting polymer, within the context of the scope of the present claims, matches the function, way, and result of an elastomeric polymer, and additionally would be an obvious substitution to the skilled artisan in recognition of the flow processing properties of a thermosetting polymer upon application of heat.

Allowable Subject Matter

Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record and to the examiner's knowledge do not teach or render obvious at least to the skilled artisan the instant invention wherein only one of the substrates has a foam gasket adhered thereto

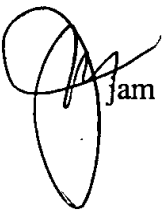
Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian A. Mercado whose telephone number is (703) 305-0511. The examiner can normally be reached on Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

jam


D. J. KALAFUT
PRIMARY EXAMINER
GROUP 1700